



US Army Corps
of Engineers
Kansas City District

**KANSAS CITY DISTRICT
CORPS OF ENGINEERS
and the
CITY OF OSAWATOMIE**

**Public Law 84-99 of the Flood Control Act of 1944
Levee Rehabilitation – NEPA Review, Environmental
Assessment & Finding of No Significant Impact**

**OSAWATOMIE LEVEE UNIT
FEDERAL,
EMERGENCY LEVEE REHABILITATION PROJECT**

**Marais des Cygnes River & Pottawatomie Creek
Miami County, Kansas**

May 2008



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

Finding of No Significant Impact

Osawatomie Levee Unit Levee Rehabilitation Project Miami County, Kansas

Project Summary

The U.S. Army Corps of Engineers (USACE), Kansas City District, in cooperation with the project sponsor, City of Osawatomie, propose to construct the Osawatomie Levee Unit Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed action is needed to repair the federal urban levee damaged by the declared flood event of July 2007. The proposed repairs are located in Miami County, Kansas, approximately 50 miles southwest of the city of Kansas City, Missouri, along the right bank of the Marais des Cygnes River and the left bank of Pottawatomie Creek (Osage River Basin) (EA Appendix I, Attachment B).

ALTERNATIVES CONSIDERED

The Osawatomie Levee Unit was damaged at 14 different locations along the levee unit. These locations were assessed in the field and then grouped based on the type of damage incurred. Based on these groupings, the following alternatives were considered.

OUTLET STRUCTURES: STATIONS 4+20, 10+54, 37+30, 59+40, 97+00, 118+00, 125+00, 146+85, 206+60, and 231+00.

Alternative 1 – Repair of Outlet Structure Erosion Protection (Recommended Plan):

Repairs to the weakened erosion protection were recommended to reduce the risk of unraveling of the levee toe or riverside banks supporting the levees. These repairs would consist of removing damaged soils, pipes, and/or concrete structures. The foundations would then be compacted and voids filled. A layer of bedding or geotextile would be used to provide a filter layer and the slope protection would be reestablished. In areas of severe damage, rock gabion baskets filled with four to eight-inch rock would be used to provide a stable base below the outlets.

No Action Alternative: The "No Action" Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure to a high risk level of future flooding.

STOPLOG GAP: STATION 241+10.

Alternative 1 – Repair Using Geogrid Fill (Recommended Plan): Repairs of the overtopping scour damages of the landside levee section would consist of removal of all weakened soil materials in the scour area. The two vertical riser pipes would be excavated and replaced. The horizontal pressure relief pipe would be cleaned to assure proper drainage. The removed soil would be returned, supplemented with additional borrow, reinforced with Geogrid, and compacted adjacent to the flood wall. The surface of the Geogrid reinforced fill would be seeded and mulched. A narrow strip of quarry run rock fill would be placed adjacent to the flood wall to assure the resiliency of the grid reinforced soils and flood wall contact. Borrow material (approximately 213 cubic yards) would be obtained from a riverside agricultural field located on the far west side of the levee unit (See attached map in Appendix I). The borrow operation would remove fill to a depth of about two feet so that the area may be re-graded and returned to farming. Combined with borrow material needed for repairs at Station 242+00 to 253+53 (see below), a total area of approximately 0.3 acres of farmland would be disturbed.

Alternative 2 – Repair Using Landside Rock Fill: Repairs of the overtopping scour damages of the landside levee section would consist of removal of all weakened soil materials in the scour area landside of the flood wall. The two vertical riser pipes would be excavated and replaced. The horizontal pressure relief pipe would be cleaned to assure proper drainage. The removed soil would be returned, supplemented with additional borrow clay materials and compacted adjacent to the flood wall. This would reestablish abutment fill needed to assure the stability and seepage reliability of the reach. Quarry run rock fill would be placed adjacent to the floodwall to increase stability of the reach and improve the resiliency of soil/structure interface. The rock fill would be placed from the toe of the abutment ground surface to a level of five feet up the levee slope to ensure adequate resistance to overtopping flow velocities along the toe of the abutment fill.

No Action Alternative: The “No Action” Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure to a high risk level of future flooding.

LEVEE CREST: STATION 242+00 to 253+23.

Alternative 1 – Repair to Levee Crest (Recommended Plan): Repairs of the overtopping scour damages would consist of removing the existing intermixed zone of aggregate surfacing and clays. Borrow clay fill would be used to reestablish the original design crest elevation. New aggregate surfacing would be used to reestablish the crown surface. The damaged landside ramp would be excavated to remove the emergency aggregate fill that was used to support flood fighting. A portion of the landside ramp would be reestablished using erosion resistant clay borrow fill. The aggregate surface of the ramp would be reestablished. Seeding and mulching would be placed on the damaged levee slopes adjacent to the crest work and the landside toe areas receiving clay fill. Borrow material (approximately 657 cubic yards) would be obtained from the same riverside agricultural field as described above (See attached map in Appendix I). The borrow operation would again remove fill to a depth of about two feet so that the area may be re-graded and returned to farming. The impact to agricultural land from borrow operations would be approximately 0.3 acres.

No Action Alternative: The "No Action" Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure to a high risk level of future flooding.

Summary of Environmental Impacts

The flood risk management level achieved by the recommended plan would be the same as the original pre-flood condition. The recommended plan would result in no impacts to any federally-listed threatened or endangered species or their habitat. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Areas of the existing levee sections damaged by flooding would be temporarily disturbed by the proposed construction activity. The adverse effects associated with the proposed project are short term/minor and are associated with project construction. These minor adverse effects would be greatly offset by restoring the flood risk management capability, and its associated social and economic benefits of the existing levee system.

Mitigation Measures

The recommended plan will result in minimal impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. Fill activities would not involve placement in or removal of fill from wetlands. Under the recommended plan, there would be minimal impacts to the aquatic ecosystem. In addition, there would be no removal of trees. Therefore, no mitigation measures are warranted or proposed.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, USACE circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated June 9, 2008, with a thirty-day comment period ending on July 9, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on the USACE Regulatory e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the USACE webpage or that they could request a hard copy of the EA and Draft FONSI in order to provide comment. No comments were received.

Levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 generally do not require the preparation of an Environmental Impact Statement. These projects typically result in long-term social and economic benefits and the adverse environmental effects are typically minor/long-term and minor/short-term construction related. Minor long-term impacts associated with these projects are typically well outweighed by the overall long-term social and economic benefits of these projects. As described above, the recommended plan is consistent with this assessment of typical levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 of the Flood Control Act of 1944.

Conclusion

After evaluating the anticipated environmental, economic, and social effects of the proposed activity, it is my determination that construction of the proposed Osawatomie Levee Unit Rehabilitation Project does not constitute a major Federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date:

17 July 03



Roger A. Wilson, Jr.
Colonel, Corps of Engineers
District Commander



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (USACE), Kansas City District, in cooperation with the project sponsor, City of Osawatomie, proposes to construct the Osawatomie Levee Unit Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed project would involve in-place repairs to outlet structure damages, stoplog gap damages, and levee crest damages to repair the urban levee damaged by the declared flood event of July 2007.

The Osawatomie levee unit is comprised of improved and new channel on the Pottawatomie Creek; drainage structures for removal of interior waters; levees along the north, east, and south sides; and stoplog gaps at Union Pacific Railroad, US Highway 169, 1st Street, and 8th Street. The levee unit surrounds approximately 450 acres of land occupied by the town of Osawatomie, which includes: residential (300 homes), commercial (eight businesses), and municipal properties. The recommended alternatives consist of in-place repair of outlet structures at stations 4+20, 10+54, 37+30, 59+40, 97+00, 118+00, 125+00, 146+85, 206+60, and 231+00; in-place repairs of stoplog gap structures at station 241+10; and in-place repairs of the levee crest at stations 235+00 to 253+23. Borrow material will be obtained from a riverside agricultural field located on the far west side of the levee unit.

Summary of Environmental Impacts

The flood risk management level achieved by the recommended plan would be the same as the original pre-flood condition. The recommended plan would result in no impacts to any federally-listed threatened or endangered species or their habitat. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Areas of the existing levee sections damaged by flooding would be temporarily disturbed by the proposed construction activity. The adverse effects associated with the proposed project are short term/minor and are associated with project construction. These minor adverse effects would be greatly offset by restoring the flood risk management capability, and its associated social and economic benefits of the existing levee system.

Prior to a decision on whether to prepare an Environmental Impact Statement, USACE circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated June 9, 2008, with a thirty-day comment period ending on July 9, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on the USACE Regulatory e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the USACE webpage or that they could request a hard copy of the EA and Draft FONSI in order to provide comment.

Additional information concerning this project may be obtained from Ms. Lekesha Reynolds, Environmental Resources Specialist, PM-PR, Kansas City District - U.S. Army Corps of Engineers, by writing the above address, or by telephone at 816-389-3160.

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
DRAFT FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
OSAWATOMIE
LEVEE UNIT REHABILITATION PROJECT
MIAMI COUNTY, KANSAS**

TABLE OF CONTENTS

SECTION 1: INTRODUCTION

SECTION 2: AUTHORITY

SECTION 3: PROJECT LOCATION

SECTION 4: GENERAL DESCRIPTION

SECTION 5: PROJECT DAMAGES

SECTION 6: PURPOSE AND NEED FOR ACTION

SECTION 7: ALTERNATIVES CONSIDERED

SECTION 8: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

SECTION 9: AFFECTED ENVIRONMENT

SECTION 10: ENVIRONMENTAL CONSEQUENCES

SECTION 11: CUMULATIVE IMPACTS

SECTION 12: MITIGATION MEASURES

SECTION 13: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

SECTION 14: CONCLUSION

**SECTION 15: PREPARERS
TABLE**

**Table 1 - Compliance of Preferred Alternative with Environmental Protection
Statutes and Other Environmental Requirements**

APPENDICES

APPENDIX I – PROJECT MAPS

APPENDIX II – NEPA REVIEW

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
DRAFT FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
OSAWATOMIE
LEEVE UNIT REHABILITATION PROJECT
MIAMI COUNTY, KANSAS**

Section 1: INTRODUCTION

This Environmental Assessment provides information that was developed during the National Environmental Policy Act (NEPA) public interest review of the proposed Public Law 84-99 Osawatomie Levee Unit Rehabilitation Project.

Section 2: AUTHORITY

The Kansas City District – U.S. Army Corps of Engineers (CENWK), in cooperation with the project sponsor, the City of Osawatomie, propose to construct the Osawatomie Levee Unit Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944.

Section 3: PROJECT LOCATION

The Osawatomie levee is located in Miami County, Kansas, about 50 miles southwest of Kansas City, Missouri. The levee extends along the right bank of the Marais des Cygnes River and the left bank of Pottawatomie Creek (Osage River basin) (Appendix I, Attachment B).

Section 4: GENERAL DESCRIPTION

The Osawatomie levee system is comprised of improved and new channel on the Pottawatomie Creek; drainage structures for removal of interior waters; levees along the north, east, and south sides; and stoplog gaps at Union Pacific Railroad, US Highway 169, 1st Street, and 8th Street. The project protects most of the town of Osawatomie, 2000 population 4,645. Within the protected area are more than 300 homes, at least 8 businesses, about 3.75 miles of railroad, and about 6.5 miles of city streets. Property value in the protected areas is conservatively estimated at almost \$18 million.

Section 5: EXISTING CONDITION

The declared flood event on July 2007 caused damages to the Osawatomie flood control works. Additional damages not caused by the July 2007 declared flood event, but in need of repair, are noted in **bold** type. The levee damages consist of:

- a. Station 4+20 – Outlet structure: minor riprap loss to an approximately ten by ten square foot area,
- b. Station 10+54 – Outlet structure: riprap loss, bedding loss, undercutting of the outlet structure, adjacent side bank erosion and slope instability, sloughing of the training bank, and damage to an inlet pipe,
- c. Station 18+37 – **Railroad stoplog gap: the stoplog gap sill has been cracked and the vertical riser pressure outlet is damaged,**
- d. Station 23+44 – **Outlet structure: the end of the pipe is broken and the outlet channel has minor scour,**
- e. Station 37+30 – Outlet structure: minor riprap loss to an approximately 12 by ten square foot area,
- f. Station 59+40 – Outlet structure: loss of soils just above the headwall caused by joint separation and minor riprap loss to an approximately ten by ten square foot area,
- g. Station 97+00 – Outlet structure: severe loss of riprap, undercutting of soils, and voids below and along the sides of the outlet structure,
- h. **Stations 101+00, 102+00, and 112+00 – Combined outlet structures: erosion at the ends of the outlets,**
- i. Station 118+00 – Outlet structure: minor riprap loss to an approximately five by 15 square foot area,
- j. Station 125+00 – Outlet structure: minor riprap loss to an approximately five by 40 square foot area,
- k. Station 146+85 – Outlet structure: minor riprap loss to an approximately 20 by 25 square foot area,
- l. Station 206+60 – Outlet structure: minor riprap loss to an approximately 10 by 10 square foot area,
- m. Station 231+00 – Outlet structure: head cutting and minor riprap loss to an approximately 10 by 15 square foot area,

n. Station 235+00 to 253+23 and Station 241+00 – Levee with Stoplog gap: loss of the aggregate surfacing, excessive rutting of soils below the aggregate surfacing, scour damage to the landside access ramp, scour of the abutment contacts riverside of the stoplog gap, scour of aggregate surfacing and clays of the levee crown, and damage to two vertical riser pressure outlet pipes.

Section 6: PURPOSE & NEED FOR ACTION

The project is needed to rehabilitate the damaged levee and restore the associated social and economic benefits. The City of Osawatomie received damages to sections of their levee during the July 2007 declared flood event. Prior to the July 2007 event, the Osawatomie levee unit provided an approximately 200-year level of flood risk management. In its current damaged state, the Osawatomie levee unit is estimated to provide an approximately 50-year level of protection. The existing condition exposes all public and private infrastructure to a higher level of risk from future flooding. Failure to restore the flood risk management capability of the levee system would keep area residents livelihood and social well-being in turmoil, subject to the continuous threat of flooding until a level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal government.

Section 7: ALTERNATIVES CONSIDERED

The Osawatomie levee unit was damaged at 14 different locations along the levee unit. These locations were assessed in the field and then grouped based on the type of damage incurred so that alternative fixes could more easily be considered. Based on these groupings, the following alternatives were considered.

OUTLET STRUCTURES: STATIONS 4+20, 10+54, 37+30, 59+40, 97+00, 118+00, 125+00, 146+85, 206+60, and 231+00.

Alternative 1 – Repair of Outlet Structure Erosion Protection (Recommended Plan):

Repairs to the weakened erosion protection were recommended to reduce the risk of unraveling of the levee toe or riverside banks supporting the levees. These repairs would consist of removing damaged soils, pipes, and/or concrete structures. The foundations would then be compacted and voids filled. A layer of bedding or geotextile would be used to provide a filter layer and the slope protection would be reestablished. In areas of severe damage, rock gabion baskets filled with four to eight-inch rock would be used to provide a stable base below the outlets.

No Action Alternative: The “No Action” Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure to a high risk level of future flooding.

STOPLOG GAP: STATION 241+10.

Alternative 1 – Geogrid Fill (Recommended Plan): Repairs of the overtopping scour damages of the landside levee section would consist of removal of all weakened soil materials in the scour area. The two vertical riser pipes would be excavated and replaced. The horizontal pressure

relief pipe would be cleaned to assure proper drainage. The removed soil would be supplemented with additional borrow, reinforced with Geogrid, and compacted adjacent to the flood wall. The surface of the Geogrid reinforced fill would be seeded and mulched. A narrow strip of quarry run rock fill would be placed adjacent to the flood wall to assure the resiliency of the grid reinforced soils and flood wall contact. Borrow material (approximately 213 cubic yards) to supplement the removed soil would be obtained from a riverside agricultural field located on the far west side of the levee unit (See attached map in Appendix I). The borrow operation would remove borrow to a depth of about two feet so that the area may be re-graded and returned to farming. Combined with borrow material needed for repairs at Station 242+00 to 253+53 (see below), a total area of approximately 0.3 acres of farmland would be disturbed.

Alternative 2 – Landside Rock Fill: Repairs of the overtopping scour damages of the landside levee section would consist of removal of all weakened soil materials in the scour area landside of the flood wall. The two vertical riser pipes would be excavated and replaced. The horizontal pressure relief pipe would be cleaned to assure proper drainage. The removed soil would be supplemented with additional borrow clay materials and compacted adjacent to the flood wall. This would reestablish abutment fill needed to assure the stability and seepage reliability of the reach. Quarry run rock fill will be placed on top of the soils and adjacent to the flood wall to increase stability of the reach and improve the resiliency of soil/structure interface. The rock fill would be keyed into the toe of the abutment ground surface to a level of five feet up the levee slope to ensure adequate resistance to overtopping flow velocities along the toe of the abutment fill.

No Action Alternative: The “No Action” Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure to a high risk level of future flooding.

LEVEE CREST: STATION 235+00 to 253+23.

Alternative 1 – Repair to Levee Crest (Recommended Plan): Repairs of the overtopping scour damages would consist of removing the existing intermixed zone of aggregate surfacing and clays. Borrow clay fill would be used to reestablish the original design crest elevation. New aggregate surfacing would be used to reestablish the crown surface. The damaged landside ramp would be excavated to remove the emergency aggregate fill that was used to support flood fighting. The section of the landside ramp would be reestablished using erosion resistant clay borrow fill. The aggregate surface of the ramp would be reestablished. Seeding and mulching would be placed on the damaged levee slopes adjacent to the crest work and the landside toe areas receiving clay fill. Borrow material (approximately 657 cubic yards) to supplement the removed soil will be obtained from the same riverside agricultural field as described above (See attached map in Appendix I). The borrow operation would again remove borrow to a depth of about two feet so that the area may be re-graded and returned to farming. The combined impact to agricultural land from borrow operations will be approximately 0.3 acres.

No Action Alternative: The “No Action” Alternative would involve no construction and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure and to a high risk level of future flooding.

Section 8: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

Prior to a decision on whether to prepare an Environmental Impact Statement, USACE circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated June 9, 2008, with a thirty-day comment period ending on July 9, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on the USACE Regulatory e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the USACE webpage or that they could request a hard copy of the EA and Draft FONSI in order to provide comment.

No comments were received.

Section 9: AFFECTED ENVIRONNEMENT:

The project area is located in Miami County, about 50 miles southwest of Kansas City, Missouri, along the right bank of the Marais des Cygnes River and the left bank of Pottawatomie Creek. This area is comprised of mainly residential, commercial and municipal properties. Common trees found within the natural areas of the project area include willows, cottonwoods and sycamores. In addition, various wildlife species occupy the riparian zone such as small fur-bearing species, white tail deer, and various birds, including neo-tropical migrants.

Primary resources of concern identified during the evaluation included: water quality, fish and wildlife, threatened and endangered species, woodlands, wetlands, agricultural, archeological and historical resources, floodplain, economics and aesthetics. Projects impacts to other resources were determined to be no effect.

Section 10: ENVIRONMENTAL CONSEQUENCES:

Water quality

The recommended plans, Alternative 1, could potentially result in minor, temporary construction related adverse impacts to water quality resulting from site runoff and increased turbidity. Potential impacts to water quality as a result of the recommended plan would be avoided and/or minimized to the greatest extent possible by the implementation of Best Management Practices. Best management practices would minimize the incidental fallback of material into the river during construction and would minimize the introduction of fuel, petroleum products, or other deleterious material from entering into the waterway. Such measures could include the use of erosion control fences; storing equipment, solid waste, and petroleum products above the ordinary high water mark and away from areas prone to runoff; and requiring that all construction equipment be clean and free of leaks. To prevent fill from reaching water sources by wind or runoff, fill would be covered, stabilized or mulched, and erosion control measures used as required. The NPDES permit would not be required since the disturbance is less than one acre. All appropriate measures will be taken to minimize erosion and storm water discharges during and after construction. All stream work proposed under the recommended plan would be covered under the General Permit No.41 (Appendix II).

Alternative 2 – Landside Rock Fill – The repairs resulting from implementation of this alternative plan would result in minor, temporary, construction related adverse impacts to water quality similar to those describe above.

In the “No Action” Alternative with the absence of the Federal action addressing levee improvements, a high water event could result in the release of a variety of industrial chemicals and substantially impact the natural and human environment within the project area. Avoiding repair actions could result in erosion and adverse impacts to water quality from increased levels of nutrient loading and wastes, including runoff of pollutants from industrial sources, petroleum products, and non-point sources of human and animal wastes.

Fish and wildlife

The recommended plans, Alternative 1, would result in minor, temporary, construction related adverse impacts to wildlife resources. The impacts to wildlife resources would be related to noise and visual disturbance during the construction activity. The impacts to fishery resources would be related to potential site runoff, which would be avoided or otherwise minimized through the use of erosion control measures.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would result in similar impacts as described above.

The “No Action” Alternative would have minimal effects on fish and wildlife resources. These impacts would arise from flooding within the now less unprotected area. Aquatic life species may benefit as more frequent flooding could occur. Other terrestrial organisms could be temporarily displaced or have their habitat degraded by flooding.

Threatened and Endangered Species

The recommended plan would have no adverse effects on any federally-listed threatened or endangered species or their habitat. In Miami County, Kansas, one plant species was federally-listed as threatened. The plant species federally-listed is the mead’s milkweed (*Asclepias meadii*). No impact to the mead’s milkweed is expected to occur from the proposed project. No impacts to any state listed threatened or endangered species or their habitat were identified.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would have no adverse effects on any federally-listed threatened or endangered species or their habitat. Additionally, no impacts to any state listed threatened or endangered species or their habitat were identified.

The “No Action” alternative would have no adverse effects on any federally-listed threatened or endangered species or their habitat. No impacts to any state listed threatened or endangered species or their habitat were identified.

Woodlands

The recommended plans, Alternative 1, would result in no impacts to woodland resources. Fill operations would avoid the trees near the borrow site.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would result in no impacts to woodland resources.

The “No Action” Alternative could result in increases to the floodplain and to floodplain vegetation if levees are not repaired. Overtime successional vegetative growth could result in increases in floodplain forest.

Wetlands

The recommended plans would have no adverse effects on wetlands.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would have no adverse effects on wetlands.

The “No Action” Alternative could result in benefits to wetlands located behind the damaged levees as these areas would be subject to a new level of future flooding.

Agricultural

With the implementation of the recommended plan, approximately 0.3 acres of agricultural land located on the far west side of the levee unit would be temporarily disturbed for borrow acquisition (Appendix I). Approximately 870 cubic yards of fill would be obtained from the agricultural area. However, this area would be re-graded during borrow operations to allow farming practices to continue after project completion.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would have similar impacts to agricultural land as the recommended plan.

The “No Action” Alternative would have no impacts on agricultural land.

Archeological and Historical Resources

The recommended plan would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). A background check of the NRHP and site location maps found no properties listed on the NRHP within or near the proposed project area. In a letter to SHPO, dated January 15, 2008 (Appendix II), the USACE made a determination that the project would have no effect on historic properties and that the project should be allowed to proceed. SHPO concurred with this determination on January 15, 2008. The project will be coordinated with appropriate federally recognized Native American tribes (Tribes). If in the unlikely event that archeological material is discovered during project construction, work in the

area of discovery will cease, the discovery would be investigated by a qualified archeologist, and the find would be coordinated with SHPO and the Tribes.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of the alternative plans would result in no effects to archaeological or historical resources.

The “No Action” Alternative would result in no effects to archaeological or historical resources.

Floodplain

The recommended plan would restore an approximately 200-year level of flood protection to the existing City of Osawatomie levee system, which would equal the level that existed prior to the declared flood event of July 2007. The area is located in the base floodplain and is subject to Executive Order 11988, “Floodplain Management.” Since the proposed levee repair would keep this levee on its original alignment, pre-flood grade and cross section, no increase in floodwater surface elevations would occur. As the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modify of the base floodplain, the Corps has determined that the recommended plan complies with the intent of Executive Order 11988.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would result in similar protections as described above for the recommended plan.

The “No Action” Alternative would continue to expose all public and private infrastructure to a higher risk level of future flooding.

Economics

With the implementation of the recommended plans, the levees would be restored to a 200-year level of flood protection. Public and private infrastructure protected by the levee prior to the flood damage would continue to be protected against a 200-year flood event. Economic conditions are unlikely to change from those of pre-damage levee conditions with the repair of this levee system.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would result in similar protections as described above for the recommended plan. However, this alternative is less cost effective than the recommended plan.

The “No Action” Alternative has a zero benefit to cost ratio and would continue to expose all public and private infrastructure previously protected by the levee to a higher risk level of future flooding. People’s livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the counties and municipal governments and special districts, such as school districts.

Aesthetics

The recommended plan would result in very minor and temporary adverse aesthetic impacts associated with the construction activity. The human population that could potentially be affected by the activity would be expected to be very low, restricted to the residents of the City of Osawatomie or the occasional boater on the Marais des Cygnes River or person(s) participating in outdoor recreation on the private land in the project area. Upon completion of the project, any aesthetic impact of the project would be the same as the original levee.

Alternative 2 – Landside Rock Fill – Repairs resulting from implementation of this alternative plan would result in impacts similar to those described above.

The “No Action” Alternative would have no effect on aesthetics.

Section 11: CUMULATIVE IMPACTS

The combined incremental effects of human activity are referred to as cumulative impacts (40 CFR 1508.7). While these incremental effects may be insignificant on their own, accumulated over time and from various sources, they can result in serious degradation to the environment. The cumulative impact analysis must consider past, present, and reasonably foreseeable actions in the study area. The analysis must also include consideration of actions outside of the Corps, to include other State and Federal agencies. As required by NEPA, the Corps has prepared the following assessment of cumulative impacts related to the alternatives being considered in this EA.

Historically, the Osage River basin has been altered by residential and commercial development, roads/bridges, and urban levees construction and other development and human uses. These activities have substantially altered the terrestrial and aquatic ecosystem within the Osage River basin.

The Corps, which administers Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, has issued and will continue to evaluate permits authorizing the placement of fill material in the Waters of the United States and/or work on, in, over or under a navigable water of the United States including the Osage River basin and its tributaries. These projects typically result in minor impacts to the aquatic ecosystem. The Corps, under the authority of the Public Law 84-99 Levee Rehabilitation and Inspection Program, has and will continue to provide rehabilitation assistance to federal levee sponsors along the Osage River basin which participate in the Public Law 84-99 Program. These projects typically result in minor short term construction related impacts to fish and wildlife and the habitats upon which they depend. Resources typically affected by this type of project generally include, but are not limited to, wetlands, flood plain values, water quality, and fish and wildlife habitat.

Of the reasonably foreseeable projects and associated impacts that would be expected to occur, further urbanization of the floodplain will probably have the greatest impact on these resources in the future.

The proposed action would involve restoring the levee unit damaged during the July 2007 flood to its pre-protection levels. This project would result in minor, short term impacts to wildlife and the habitats upon which they depend. However, these minor construction-related impacts would be greatly offset by restoring the flood risk management capability and its associated social and economic benefits of the existing levee system. In addition, this project would not result in an addition to flood heights or a reduced flood plain area but is merely a form of maintenance to that which had previously existed. Thus, no significant cumulative impacts associated with the proposed rehabilitation of the existing levee system have been identified.

Section 12: MITIGATION

The recommended plan will result in minimal impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. Fill activities would not involve placement in or removal of fill from wetlands. Under the recommended plan, there would be minimal impacts to the aquatic ecosystem. In addition, there would be no removal of trees. Therefore, no mitigation measures are warranted or proposed.

Section 13: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

Compliance with Designated Environmental Quality Statutes that have not been specifically addressed earlier in this report is covered in Table 1. Additional information is listed for the most pertinent statutes following Table 1.

Section 14: CONCLUSION

The flood risk management level achieved by the recommended plan would be the same as the original pre-flood levees. The proposed action would involve restoring the levee unit damaged during the July 2007 flood to its pre-protection level. This project would result in minor, short term impacts to wildlife and the habitats upon which they depend. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Overall, the minor, impacts associated with this project are outweighed by the long-term social and economic benefits.

Section 15: PREPARERS

This EA and the associated draft FONSI were prepared by Ms. Lekesha Reynolds (Environmental Resource Specialist), with relevant sections prepared by and Mr. Timothy Meade (Cultural Resources). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City, District; PM-PR, Room 843, 601 E. 12th St, Kansas City, MO 64106.

Table 1
Compliance of Preferred Alternative with Environmental Protection
Statutes and Other Environmental Requirements

Federal Polices	Compliance
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Full Compliance
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance

NOTES:

- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).
- b. Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of a requirement of the statute.
- d. Not applicable. No requirements for the statute required; compliance for the current stage of planning.

Clean Water Act, Section 404 and 401

All stream work proposed under the recommended plan would be covered under the GP-41 (Appendix II).

Clean Water Act, Section 402

The NPDES permit would not be required since the disturbance is less than one acre.

Endangered Species Act, Section 7

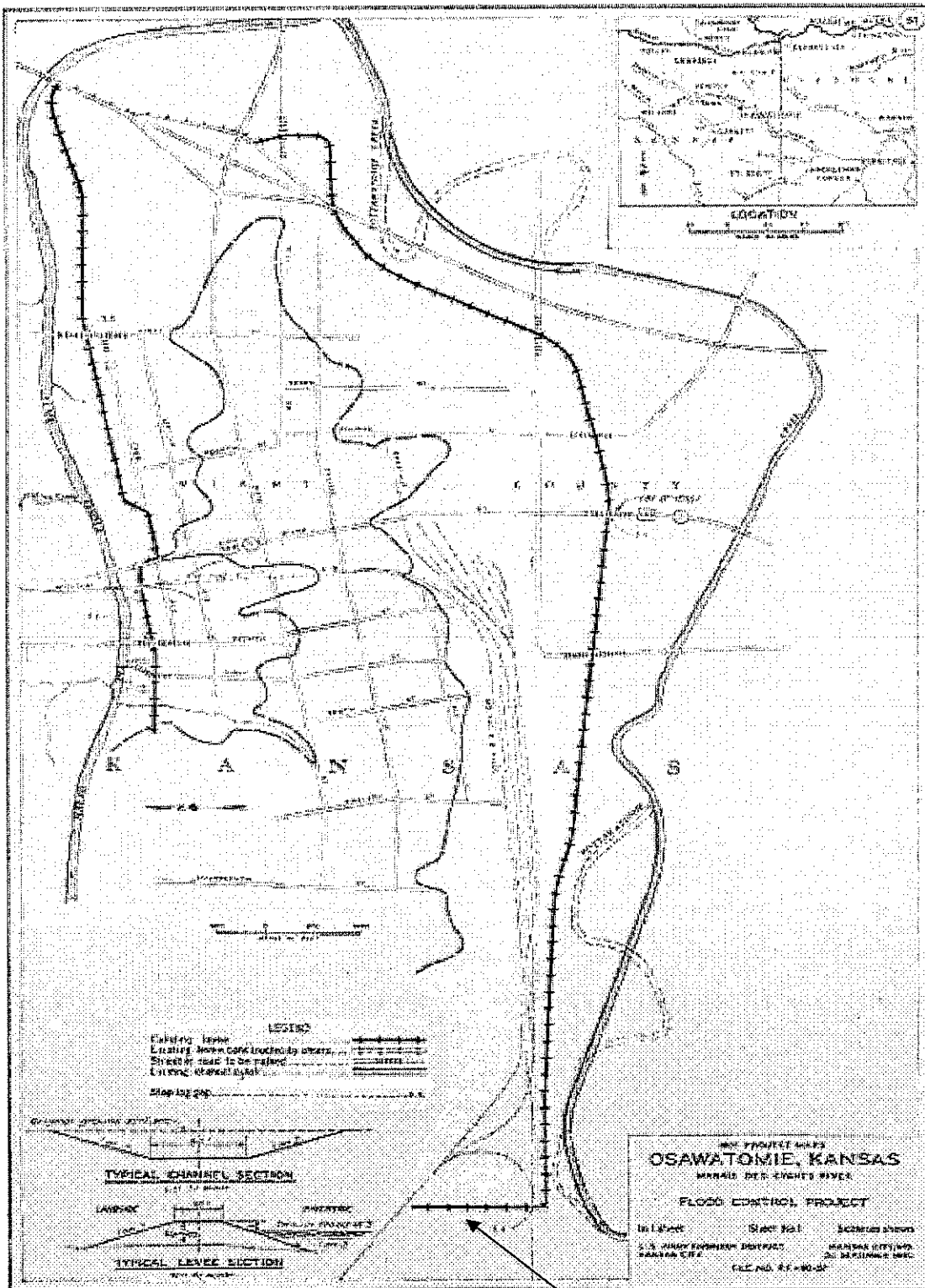
The Corps of Engineers has made a determination that no impacts to any federally listed threatened or endangered species or their habitat would occur with the project action. The USFWS has reviewed the EA and has no comment.

National Historic Preservation Act

No sites listed on or eligible for listing on the National Register of Historic Places are located within or near the proposed project area. Coordination with the Kansas State Historic Preservation Office (SHPO) was completed for the project by letter dated January 15, 2008.

APPENDIX I – PROJECT MAPS

*Osawatomie
P.L. 84-99 Levee Rehabilitation Project
Miami County, Kansas
May 2008*



Attachment B

2007 Overtopping
 Damages

APPENDIX II - NEPA REVIEW

*Osawatomie
P.L. 84-99 Levee Rehabilitation Project
Miami County, Kansas
May 2008*

KANSAS

KSR&C No. 08-01-043

Kansas State Historical Society
Cultural Resources Division

KATHLEEN SEBELIUS, GOVERNOR

January 15, 2008

Timothy Meade
District Archeologist
Department of the Army
Kansas City District, Corps of Engineers
700 Federal Building
Kansas City, MO 64106-2896

RE: Emergency Flood Repair.
Osawatomie Federal Levee
Miami County

Dear Mr. Meade:

The Kansas State Historic Preservation Office has reviewed its cultural resources files for the area of the above referenced project in accordance with 36 CFR 800. The project as proposed should have no effect on properties listed on the National Register of Historic Places or otherwise identified in our files. This office has no objection to implementation of the project.

Any changes to the project area that include additional ground disturbing activities will need to be reviewed by this office prior to beginning construction. If construction work uncovers buried archeological materials, work should cease in the area of the discovery and this office should be notified immediately.

This information is provided at your request to assist you in identifying historic properties, as specified in 36 CFR 800 for Section 106 consultation procedures. If you have questions or need additional information regarding these comments, please contact Tim Weston 785-272-8681 (ex. 214). Please refer to the Kansas Review & Compliance number (KSR&C#) above on all future correspondence relating to this project.

Sincerely,

Jennie Chinn
State Historic Preservation Officer


Patrick Zollner
Deputy State Historic Preservation Officer